APPENDIX A

BIBLIOGRAPHICAL REFERENCES

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APPENDIX B

SAMPLE PRESS COVERAGE

Staff Photo by Tom Zasadzinski

Montclair police Officer Dennis Conlin looks for speeders with a radar detector

Technology hits the streets

Electronics aid traffic enforcement

By J. Rezendes-Herrick
Staff Writer

No high-tech tools for former police officer Roger Remlinger

"It kind of takes the thrill out of the hunt," said Remlinger, an attorney in Rancho Cucamonga. "We did it the old-fashioned way – pace 'em, pull them over and give them a ticket."

But increasingly, police departments from New York to California are using sophisticated electronic devices to nab speeders and other errant drivers. Budget constraints on departments' traffic control operations – coupled with explosive growth in the numbers of drivers – have led officers to seek new ways to improve safety and obedience on roadways.

The latest wrinkle has surfaced in Southern California, where computer controlled video cameras are aimed at car-pool lane scofflaws in Orange and Los Angeles counties.

"We've gotten to the point that we can't build our way out of this freeway mess," said Phil Jang, chief of Caltrans' high occupancy vehicle operations. "So we're indicating people can use car pool lanes as one way to lessen congestion."

A $250,000, 18-month study may rectify the problem. Caltrans and the California Highway Patrol have retained Systan Inc. to examine all phases of car pool lane operations, design and construction standards, optimal operating plans and catching violators driving with fewer than the required number of occupants.

Burning up patrol officers to enforce car pool regulations is impractical during rush hour commutes. And the process of zipping in and out of stalled traffic to stop violators borders on being reckless, some experts say.

"The officer is driving along and watching in the rear view mirror," said John Billheimer, Systan vice president. "They're going from a standing start to a lane where the traffic is going 50, 60 mph."

"We want to lessen the manpower it requires to enforce these lane violations," Jang added. "Right now, we don't have the enforcement for all the HOV lanes and it's quite unsafe."

That could change once the study is completed. Beyond the design and construction innovations, the $100,000 system could give law enforcement a leg up on the commute madness. Violators could be tracked until an officer could pull them safely into enforcement areas.

"There have been quite a few error rates and we really haven't adopted a stance yet," said Lt. Shawn Watts with the CHP's planning office in Sacramento. "If it does work, we're looking to help the officers out by interfacing with the cars."

Photo traffic enforcement got its start in Europe. Speeders are routinely nailed by still cameras and receive citations days or weeks after the violations. In California, the Pasadena Police Department pioneered the use of photo radar in June 1988.

"We were experiencing a high incidence of speed-related accidents," said Lt. Bob Huff with the department's photo radar unit. "And the number one complaint we were receiving was speeding in residential neighborhoods. We talked about speed bumps, stop signs – our eyes were open to things like this."

A city traffic engineer found a flier on photo radar from Traffic Monitoring Technologies in Houston. The company was contacted and representatives offered to demonstrate the device. The city Board of Directors commissioned a 45 day, $27,000 study and the police department began photographing speeders and mailing warnings to violators.

The apparatus uses radar hooked to a computer that activates a camera. Drivers moving faster than the speed pre-set for the radar trigger the computer, which then tells the camera to photograph the driver and license plate. About 1,400 warnings were issued during the testing period, accompanied by surveys to gauge residents' reactions to the program.

"I was kind of surprised the people accepted it," Huff said. "There were some letters to the editor but not that many."

The systems cost about $65,000 each. But Pasadena leases the equipment from the Texas firm in return for a $20 payment for every ticket assessed. With most fines netting the city less than $20, the company has agreed to take no more than the city's share and the program is essentially a break-even proposition.

The radar unit is mounted in the rear of a white Chevy Blazer with Police Department markings. A single officer works the radar unit for between 70 hours and 150 hours a month. That frees the city's remaining 15 traffic officers to concentrate on other vehicle hazards and violations.

The department mailed 16,599 tickets during the program's first 18 months. While the number of acci-

See TECHNOLOGY/B4

Cameras, computers as traffic police raise new legal issues

By J. Rezendes-Herrick
Staff Writer

The debate over police spy eyes for traffic enforcement runs the gamut.

"In our community, people have been 100 percent behind it," said Sgt. Ron Warner with the Paradise Valley, Ariz., police, who have used photo radar since 1987.

"I have enormous concerns about privacy rights under the Constitution," said Erwin Chemerinsky, USC law professor and Southern California American Civil Liberties Union board member.

From minor legal glitches to major concerns over individual rights, officials are coming to grips with laws that govern the use of high technology photo-traffic devices.

"When Paradise Valley first started using (photo radar), there was a lot in the media about Big Brother," said Jim Redpath, chief transportation division counsel with the Arizona Attorney General's Office. "There were a lot of letters that said this was just one more example of the government invading and taking over."

But courts in Arizona have largely upheld the enforcement tool. And municipal courts in Los Angeles County have sustained photo radar use by the Pasadena Police Department.

Computer-controlled cameras photograph motorists who run stoplights under a pilot program in New York City. But cameras cannot testify in

See LAWS/B4

Need outweighed by cost for local police agencies

By J. Rezendes-Herrick
Staff Writer

Pomona motorists won't run afoul of photo radar and Ontario drivers can feel secure from video camera surveillance.

Few of the technological innovations being pioneered on Los Angeles County's highly congested roadways are being used in the Inland Valley's less-dense traffic corridors.

"It's been looked at," said Sgt. Bob Racine with the Ontario Police Department. "It's a good idea. However, in terms of the effort and the cost involved, that's more than the benefits derived from it."

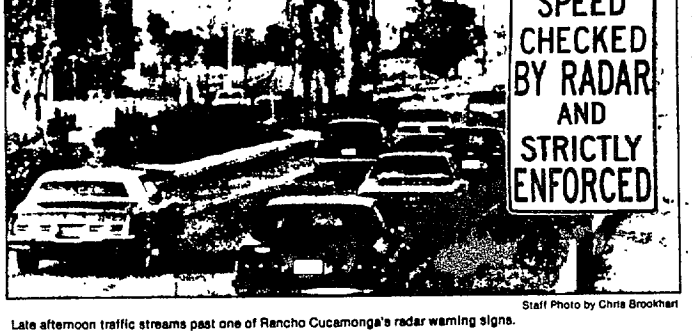
"We've got brochures from companies building these kinds of things," added Lt. Mike Ingram with the San Bernardino County Sheriff's Department Rancho Cucamonga Station. "I've talked to some people but we feel our traffic program is effective and they cost so much it's kind of prohibitive."

The high cost is the biggest barrier to using photo radar and other enforcement systems, local officers say. Photo radar units cost upwards of $65,000. Sensor activated cameras that police intersections run about $45,000 each. Covering an entire intersection with units would cost $180,000 – as much as or more than the traffic lights themselves.

The region lacks carpool lanes – the first is slated for the Riverside (91) Freeway and is still in the design stages. And while several thoroughfares are recording crisis traffic counts, the region's overall car and truck flows are not sounding alarms.

About the only remote-control traff-

See LOCAL/B5



Staff Photo by Chris Brookhart

Late afternoon traffic streams past one of Rancho Cucamonga's radar warning signs.

'Hot Spots' results in drugs arrests

By Sharon Greengold
Staff Writer

Pomona police assigned since Jan. 19 to an aggressive month-long patrol through high-crime neighborhoods have arrested 60 people suspected of selling drugs.

A group of 20 police officers have been taken off their regular patrols and paired up to crack down on neighborhoods notorious for sales of illicit drugs.

Dubbed "Operation Hot Spots," police cars are driven around in pairs through neighborhoods in an effort to root out drug profiteers and haul them off to jail.

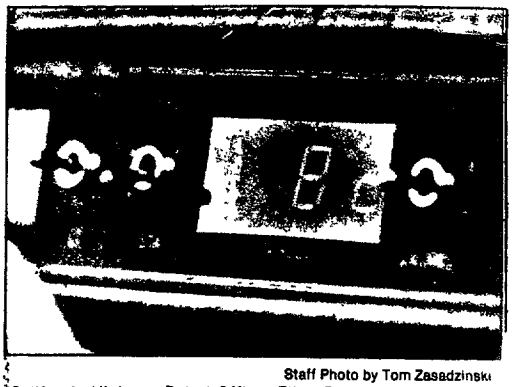
Police have made 35 felony arrests for sales of narcotics and 25 misdemeanor arrests for possession of dangerous drugs and drunken driving through Friday. Police also handed out 49 citations for vehicle code violations, said Pomona police Capt. Rick Shaurette.

We did this in the 'Islands' a year ago," Shaurette said, referring to a neighborhood north of La Verne Avenue, east of San Antonio Avenue and south of Arrow Highway.

To protect strategy, neither the patrol schedule nor specific areas targeted by the team are divulged, Shaurette said.

Basically we saturate the areas with reports of problems

See ARRESTS/B2



Staff Photo by Tom Zasadzinski

California Highway Patrol Officer Ellen Conley's radar shows a speeders' rate of travel.

Technology/from B1

dents has held steady, the number of speeders was nearly halved, Huff said.

When the system was first used, 9.5 percent of the cars passing it were traveling faster than the speed limit That dropped to 3.6 percent right after the radar started and has since stablized at 5 percent.

And what little public outcry surfaced has since disappeared A survey earlier this month of 1,000 residents in and around Pasadena provided some interesting results. A total of 61 percent of those contacted favored the device In addition, 64 percent said they would like the program expanded and 39 percent said they now drive slower because of the photo radar

"The speeders have really subsided and it's based solely on the photo radar," Huff said It's really helped me — when I go to talks I can pull out the statistics to show them "

Some criticism arose of the department's trademark "smile" signs that tell people photo radar is being used by the city But Huff has tried to deflect the comments

"A city traffic engineer designed it and we got a few calls," he said "Some people took it as a slap in the face But he designed it to tell the people of Pasadena that we're strictly enforcing the speed limits on their streets (to help them) "

Laws/from B1

court and the city got a change in state law to permit prosecution of the offenses in city courts.

"Under ordinary circumstances you see a cop writing a ticket out," said Victor Ross, assistant commissioner for the city's transporation department "In this case, we're saying someone was driving the car, and, yes, it went through a red light and the violation is going to the registered owner "

That approach runs into problems in California, said Rancho Cucamonga attorney Roger Remlinger

"My main concerns would be the accuracy and whether you can link the vehicle and the driver," he said. "What do you do about the rental car? What if somebody borrows your car?"

A provision in California law governing police vehicle markings nearly scuttled Pasadena's photo radar program.

"It was housed in a Blazer that had a wide colored stripe around it," said Courtlande Crabtree, Pasadena's assistant city prosecutor. "We had to get rid of the stripe and start over."

Some are concerned that a private firm has access to motor vehicle records that are normally reserved for law enforcement agencies

"These kinds of issues come up," Redpath said "The big issue is you had companies with monopolies with access to records as opposed to the police doing it themselves."

But some of the minor issues disappear in discussions of the legal principles involved.

"There is the specter of Big Brother taking your picture but what bothers me is the due process," Chemerinsky said "If a police officer stops you there is an individual you can respond to. If a picture is taken weeks ago, do you really have a meaningful and fair opportunity to respond?"

Crabtree discounted the objections

"A lot of people including myself think this stuff about Big Brother privacy just doesn't fly," he said. "There is all kinds of case law about vehicles on the street being in a public place The camera sees less than a pedestrian looking into the vehicle."

Some new legal problems are developing with photo identification of traffic violators Private firms making the equipment also develop the film, locate the driver and mail the citat through information provided by the Department of Motor Vehicles

But in July, television actress Rebecca Schaeffer was shot to death by an obsessed fan who apparently used DMV information to get her home address Legislators in Arizona and California subsequently wrote bills to restrict information that can be obtained from vehicle departments The new law's full effects won't be sorted out for some time

Traffic control devices improving

Advances making them more accurate

By J Rezendes-Herrick
Staff Writer

Sophisticated traffic control devices rely on the latest technology to nab reckless drivers all over the world

But sometimes catching violators comes down to little more than the ancient shell game

"They have a system in Israel, in Tel Aviv," said Victor Ross, assistant commissioner with the New York City Transportation Department

"There are 40 intersections with black boxes But all they have is four cameras Those clever guys keep moving the cameras around It's certainly a deterrent because you pull up and there's a big black box looming at you "

Radar and computers have been used in law enforcement But using radar activated cameras errant drivers on film has opened the possibility of remote control traffic police

> ***"It's doing very well. It's helped reduce accidents; that's the main reason for continuing it."***
>
> **—Sgt. Ron Warner**

"Particularly in Northern California, there is just no place even for an officer to stand and observe traffic," said John Bilheimer, vice president of Systan Inc that is testing video camera surveillance of car pool lanes in Los Angeles and Orange counties "In one case, they were just shoehorning an officer in a little niche created by a bridge support "

Policing traffic violations via camera computer hookups accomplishes two goals Violators can be corralled and ticketed later in areas that are safer for both officers and passing motorists And police are freed up to cope with other traffic problems

The systems were invented in the United States but have found their biggest success in Europe Departments in Sweden and Germany have been photographing speeders for about 15 years

Photo radar to identify speeders was first used in the United States in 1970 by the police department in Arlington, Texas

"It took good pictures," said Arlington Officer James Belz

A man out in the car with a woman not his wife would have a serious problem if he was speeding because they'd be on the picture "

Olin Gary is now rangemaster at the Arlington Police Academy but was coordinator for the department's radar program The ORBIS 3 was designed and built by LTV Corp

"The biggest problem was locating the driver and writing the ticket," Gary said "About 70 percent of the photos were not usable at all Out of those left over, half you couldn't identify or locate the driver It wasn't cost effective to issue citations "

Originally designed to work automatically, court rulings and concerns over vandalism forced the department to hire an LTV technician to staff the device

The program was stopped in 1972 and resurrected briefly in 1976 before being permanently discontinued

By the mid-1980s, technological advances in computers and photography dramatically improved the devices Traffic Moni

See LATEST/B5

Latest/from B4

toring Technologies of Houston developed a compact system and a plan for servicing the device on a contract basis

Paradise Valley, Ariz , signed up for the program in late 1987, one of only two communities nationally now using the system

"It's doing very well," said Sgt Ron Warner "It's helped reduce accidents; that's the main reason for continuing it "

The department has issued more than 20,000 tickets and about 70 percent of the offenders are either paying the fine or attending traffic school Accident rates have dropped 19 percent overall since the program began

A different sort of technology is being tested by New York City Sensors implanted in the streets trigger cameras keyed to the traffic signals The program has spent two years looking at four different systems The devices are currently policing intersections in Manhattan, Queens and Brooklyn

"I would hazard a guess the companies think they're the greatest thing since Carter's Little Liver Pills and that every body will fall in line," said the transportation department's Ross "But it costs money to implement it We have a unique situation where we have a fiscal crunch and we're not sure whether they'll be invited to implement it "

But running stop signs or red lights is virtually a pasttime in New York

"The idea is always in a motorist's mind when he tries to creep into the street or rush through to beat the light," he said

Despite the dearth of current usage, traffic technology is gaining popularity Dallas police are considering using photo radar systems, as are state police in Maryland and Virginia who patrol the traffic-clogged Capitol Beltway around Washington D C

"We're doing a study to see if the device is practical for us," said Col Charles M Robinson with the Virginia State Police "That's in the infancy stages "

Yet police departments are confronted by the same choices as other governmental agencies

"We're just now looking into it," said Capt. Larry Sanborough with the Dallas Police Department traffic division "The problem will be the budget Those suckers are expensive "

Local /from B1

ic device in use locally are the speed boards Radar-activated display boards tell passing motorists their speed, a gentle reminder short of a traffic ticket to slow down

The equipment is being used by the Los Angeles County Sheriff's Department in Walnut and the Ontario CHP office is debating whether to use the device

"Certain areas have them in Northern California," said CHP Officer Mike MacBean "It's been very productive as far as slowing people down "

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Video Patrol of Car-Pool Lanes Gets Tryout in O.C.

Los Angeles Times (LT) - MONDAY January 8, 1990
By: ERIC BAILEY; TIMES STAFF WRITER
Edition: Orange County Edition Page: 1 Pt. A Col. 5
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It could be the traffic cop of the future.

Across the country, from the Washington beltway to the streets of Pasadena, transportation officials are turning to the camera to crack down on motorists guilty of everything from speeding to running stop lights.

Now the concept could be coming to California in an even bigger way. Authorities at the California Department of Transportation and the California Highway Patrol are looking at using video cameras to nab motorists who violate car-pool-lane rules on freeways up and down the state.

The new video technology, which features cameras as tiny as a lipstick tube and super-slow-motion replay machines, has already had a dry run on the Artesia and Simi Valley freeways in Los Angeles County and was tested again last Thursday in Orange County along the Costa Mesa Freeway's car-pool lanes.

For the CHP, the idea has particular allure. If the video technique proves feasible, it could help shrink violation rates in car-pool lanes and relieve officers of the dangerous task of pulling scofflaws across three or four lanes of freeway traffic to issue a ticket.

"We're interested in testing any kind of technique that could help out," said Lt. Shawn Watts of the CHP's transportation planning unit in Sacramento. "This looks pretty good because it would possibly save a lot of officer time, reduce their exposure to traffic out there and hopefully catch more violators."

While transportation officials agree that the idea shows promise, obstacles remain. Technological hurdles must be overcome, and logistical changes might be necessary before tickets could be delivered to motorists via the mail.

But the biggest roadblock, experts say, may be legal. As they have in other parts of the country, some residents and civil liberty groups may conjure Orwellian images of "Big Brother," saying the cameras infringe on the privacy of motorists.

"Speaking for myself, the Big Brother aspect of it is a little disturbing," said Bill Ward, a leader of Drivers for Highway Safety, a small Orange County-based group opposed to car-pool lanes. "I think they'll have some problems getting it to stand up in court . . . I just don't see this going very far."

Transportation officials, however, insist that the benefits of such an approach would far outweigh the risks.

(cont. next page)

"I think those kinds of arguments, the Big Brother thing, can be overcome and has to be overcome," said Steve Albert, a Texas-based expert on the use of video cameras for monitoring traffic. "It (currently) just takes too many man-hours to enforce these facilities. It's too costly. Like every other technological advancement, it will come in time."

Most authorities in California estimate it could be as long as five years before the video cameras could become a fixture along car-pool lanes in the state. A host of difficulties must first be addressed.

Initial tests, which are being conducted as part of a larger study of car-pool enforcement, have been hampered by the tedious task of positioning cameras just right so they can peer down into a car to spot the less-obvious passenger--a baby on board or someone lying down on the back seat. Tinted windows, sun glare, morning mist on the windshield and other environmental factors could also obscure the camera's view.

Assuming those sorts of troubles can be ironed out, state authorities would still have to deal with the problem of angry motorists, who might reject the idea of receiving a ticket through the mail. Laws would probably have to be adjusted so the burden of a ticket falls on the owner of a vehicle instead of the driver, a regulation that might irk any parent whose teen-ager got caught by the camera driving solo down the car-pool lane in the family car.

Even the issue of who monitors the cameras and videotape could prove vexing. Though some cities have hired outside firms to pluck violators from the pictures and search the records for vehicle owners, California authorities envision a system that would probably employ sworn peace officers to determine who has broken the law.

Whatever is decided, the concept promises to engender a fair amount of debate. Surveys conducted as part of the car-pool violation study found motorists "equally divided" over camera-patrolled car-pool lanes, according to John Billheimer, vice president of Systan Inc., a Los Altos-based transportation planning firm doing the study for Caltrans.

Despite that reaction, the concept has been in use for years in other parts of the world. West Germany has had an active "photo-radar" program for about two decades, and the technique is used to nab speeders elsewhere in Europe, Asia and South America.

Photo-radar, which combines still photographs with radar to determine a motorist's speed, has only recently made an appearance in the United States. Although some residents quickly dubbed it "robocop," the technique has been used successfully in Paradise Valley, Ariz., since 1987. Pasadena began issuing citations with the same Swiss-made device in June, 1988.

Since then, more than 14,000 speeding tickets have been issued in Pasadena for motorists caught by the photo-radar, according to Sgt. Gene Gray of the Pasadena police. Nearly 300 people fought their tickets, but the city prevailed in 90% of those cases, he said.

Still, there have been problems. Pasadena recently tried enlisting a similar

(cont. next page)

device that would photograph motorists who run red lights, but the machine proved largely ineffective. The same device was installed at several intersections in New York that have been plagued with accidents involving cars hitting pedestrians.

Then there are the troubles in Texas. A small suburban community outside Houston adopted photo-radar a few years ago, but discontinued use of the device after about six months. Though the official excuses were legal problems and public discontent, transportation planners say privately that it had more to do with sex, lies and photographs.

As the story goes, a prominent Texas politician was caught by the machine speeding along in his car with a woman who was not his wife. When the photograph was routinely mailed to his house along with a ticket, the politician's spouse caught a glimpse and hit the roof. The official then worked behind the scenes to get the plug pulled on the photo-radar.

Despite such potential pitfalls, the concept is being eyed for Washington, D.C. Officials with the Virginia State Police are investigating the use of photo-radar or video cameras to ticket speeders along the 60 miles of freeway circling the capital.

In California, authorities are focusing for now on using such high-tech ploys simply to uphold the law of the car-pool lane. While state officials are quick to emphasize that the concept is still in the raw testing stages, they have a hard time hiding their optimism.

"As far as the safety issues, I think it could be a great tool," said Scott McGowen, an assistant transportation engineer with Caltrans in Sacramento. "We'll have to look into the costs some more, and maintenance of such a system. But this could help with many problems we have now, like the way these traffic stops disrupt the flow in other lanes."

One day last week, McGowen and other state officials huddled with technological experts atop an overpass on the Costa Mesa Freeway to watch a demonstration of the videotape system at work.

Hunkered in a van crammed with TV screens, Ken Taylor of ADT Inc., a Woodland Hills firm that designs and builds video systems for everything from aircraft simulators to hospitals, squinted at the pictures being fed by three cameras. One screen showed cars roaring head-on down the freeway, another displayed license plates of passing vehicles in the car-pool lane and a third showed a side view of cars roaring by.

"We've tried all types of cameras, all sorts of angles," Taylor said.

The cameras in use on this day, he noted, were not the micro-sized models that may come in handy along tight stretches of highway. And these cameras and videotape machines were not even the best. Such super-sophisticated devices, which provide a more detailed picture, cost about $30,000 for just a videotape recorder alone, compared to $6,000 for the one in use Thursday, Taylor said.

When a visitor pointed to an approaching car that seemed to have just a single occupant, Taylor shifted in his seat, ready for action. His fingers danced across

(cont. next page)

the controls of the videotape machine after the car whizzed by, rewinding the film until a side view of the car stood frozen on the screen.

"Ah ha!" Taylor chirped, pointing to the screen. "You think that's a violator? Look at that baby in the back seat."

Those are just the sorts of results transportation officials like to see.

"I think we're in the new age," said McGowen of Caltrans. "Anything we can look at that's high tech, we have to. This may not be the way to go, but we have to explore everything."

CAPTION:
Photo: CHP officer Ed Exley checks out video system on Warner Avenue overpass as it monitors car-pool lane traffic on Costa Mesa Freeway.
Photo: Video Patrol
California highway authorities are looking at using video cameras to nab motorists who violate car-pool lane rules. The technology, including miniature cameras and slow-motion replay, was tested Thursday on the Costa Mesa Freeway. Advanced Technical Division President Ken Taylor watches from a van on the Warner Avenue overpass.
LEO JARZOMB / For The Times

DESCRIPTORS: FREEWAYS; VIDEO RECORDINGS; CARPOOLS; CALIFORNIA HIGHWAY PATROL; CALIFORNIA DEPARTMENT OF TRANSPORTATION; TRAFFIC MANAGEMENT; TRAFFIC VIOLATIONS; POLICE EQUIPMENT; DETECTION DEVICES; SURVEILLANCE; LAW ENFORCEMENT

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